Device for installing rail clips

The invention relates to a device for installing rail clips connecting a rail to a sleeper of a track, consisting of two tool levers positioned opposite one another and supported in each case on a tool frame by means of a squeezing cylinder in the transverse direction of the machine or track and movable about a pivot bolt of a lever bearing, there being provided at the lower end of each tool lever a pressing member provided for application to a rail clip.

From US 5,839,377, a device of this type is already known which is arranged for vertical adjustment on a machine frame mobile on a track and comprises tool levers supported at their upper end on the pivot axis. The squeezing cylinder is articulatedly connected to the two levers at approximately the longitudinal center thereof. Provided in each case at the lower end of the tool levers is a pressing member for inserting a rail clip in the direction towards the rail. Arranged additionally on each tool lever is a further pressing member consisting of two contact noses rotatable about an axis extending perpendicularly to the longitudinal direction of the rail.

It is the object of the present invention to provide a device of the specified kind which makes possible the mounting or dismounting of rail clips, as desired, with optimal kinematic conditions in each case.

According to the invention, this object is achieved with a device of the kind mentioned at the beginning by the features cited in the characterizing clause of claim 1.

In the devices used up to now, the pressing members move along a common circular path, defined by the pivot axis of the tool lever, during both the mounting and the dismounting of the rail clips. However, due to the points of application for moving the rail clip being spaced from one another in the transverse direction of the track, the ideal circular paths for both modes of action are not identical. The heretofore known common circular path represents an unsatisfactory compromise, as it were. As a

result of the embodiment of the device according to the invention, it is now possible for the first time to use the respective optimal circular path for transmitting the great thrust forces by selectively employing the one or the other lever bearing. The retooling operations necessary for that purpose are simple and require only small expense of time, since merely the pivot bolt must to be repositioned, and the device does not have to be centered anew.

Additional advantages and features of the invention become apparent from the further claims and the drawing.

The invention will be described in more detail below with reference to embodiments represented in the drawing in which

Fig. 1 shows a view, in the longitudinal direction of the track, of a device according to the invention,

Fig. 2 shows a detail view of a lever bearing according to arrow II in Fig. 1, and

Fig. 3 shows a further embodiment of a device.

A device 1, visible in Fig. 1, serves for installing rail clips 4 connecting a rail 2 to a sleeper 3 of a track and is usually arranged for vertical adjustment on a track maintenance machine not shown in detail. The device 1 essentially consists of two tool levers 5, positioned opposite one another in the transverse direction of the track, which are supported on a tool frame 6 and connected to one another by means of a squeezing cylinder 7. Arranged at a lower end 8 of each tool lever 5 are adjustable pressing members 9,10 for application to the rail clip 4. The pressing member 9 serves for mounting rail clips 4, and the pressing member 10 serves for dismounting rail clips 4. Each tool lever 5 comprises a first and a second lever bearing 11,12 distanced from one another in a transverse direction 15 extending perpendicularly to pivot axes 13,14. The lever bearings 11,12 serve for pivoting the tool lever 5 about the pivot axes 13,14, as desired. The two pressing members 9,10 are rotatable about an axis 23 by means of a drive.

As can be seen also in Fig. 2, the lever bearings 11,12 consist of bores 16 and a pivot bolt 17. In particular, each tool lever 5 comprises two bores 16, and the tool frame 6 comprises a total of four bores 16. Each of the two pivot bolts 17 is equipped with a handle 18 and a locking device 19 positioned opposite thereto.

The mode of operation of the device 1 will now be described briefly. Depending on the type of application, the two lever bearings 11 for mounting rail clips 4, or the two lever bearings 12 for dismounting rail clips 4, are formed by manual insertion of the pivot bolts 17. The locking device 19 prevents the pivot bolts 17 from unintentionally slipping out. In this, the pressing members 9 (mounting) or 10 (dismounting, shown in dot-and-dash lines), which are likewise positioned depending on the type of application, move on a kinematically optimal circular path 21 (mounting) or 20 (dismounting), respectively, which ensures an optimal contact with the rail clip 4 in each case. Movement of the pressing members 9,10 results from actuation of the squeezing cylinder 7.

The device 1 visible in Fig. 3 comprises a total of four pivot bolts 17, each of which is connected to a drive 22. The latter are actuated via a control device, not shown in detail, for selectively inserting the pivot bolts 17 into the bores 16 of the lever bearings 11,12.